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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,570	06/17/2005	Jean-Philippe Pascal	273838US0PCT	4493

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
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ALEXANDRIA, VA 22314

EXAMINER

MUKHOPADHYAY, BHASKAR

ART UNIT	PAPER NUMBER
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1789

NOTIFICATION DATE	DELIVERY MODE
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11/26/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/539,570	Applicant(s) PASCAL ET AL.	
	Examiner BHASKAR MUKHOPADHYAY	Art Unit 1789	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 10/26/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-15, 17- 20,22,24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-15,17-20,22,24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/26/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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- a. Determining the scope and contents of the prior art.
- b. Ascertaining the differences between the prior art and the claims at issue.
- c. Resolving the level of ordinary skill in the pertinent art.
- d. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 11, 13-15, 17, 20, 22, and 25, rejected under 35 U.S.C. 103(a) as being unpatentable over Bessette (I), (US 2002/0028256) in view of Bessette (II), USPN 6887899, and either NPL "Acarid killer" or Knight, USPN 5439690, taken in view of the evidence given by NPL "Mills J. T" and Misato et al., USPN 4599233.

5. Regarding claims 11, 13 – 15, 17, 20, 22, and 25 Bessette (I) teaches about the composition to control mites (Abstract; [0006]) , in food products affected by mites e.g. cereal ([0006], [0025]), wherein the composition is in the form of "spray powders" with the coated active ingredients in carrier vehicle like inorganic solids , silica etc. ([0027], [0029], e.g., 'silica' [0031], e.g. 'inorganic solids'), and wherein the solid carriers are finely divided inorganic solids having particle sizes less than 50 micron ([0031]). The active ingredient as plant essential oils comprising alpha terpineol, eugenol, cinnamic alcohol, benzyl acetate, 2-phenyl ethyl alcohol, benzyl alcohol etc. ([0022], [0023]) may be from 0.05-15% in the composition and carrier may be upto 99% in the composition ([0031]).

Bessette (I), however, does not teach about (a) more than 40 % by weight sodium bicarbonate in the composition, (b) 'free of neurotoxic substances' and (c) at least 95% of death of acaroids within 10 days as claimed in claim 25.

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With respect to difference (a), NPL "Acarid killer" teaches about 95% other ingredients including sodium bicarbonate as carrier with plant essential oils in the composition and act both to kill mites i.e. acarids, and acts as an insecticides too, as required in claim 17. It is obvious that one of ordinary skill in the art may use sodium bicarbonate more than 40% in the carrier composition and may combine other ingredients to make 95%. It is also obvious that one of ordinary skill in the art may use sodium bicarbonate only as a carrier as claimed in claim 22 with the motivation that it is not toxic and is used as baking soda for human use.

Since the instant specification is silent to unexpected results, the specific amount of sodium bicarbonate is not considered to confer patentability to the claims. As the combined acaricidal, fungicidal, and insecticidal effects are variables that can be modified, among others, by adjusting the amount of sodium bicarbonate, the precise amount would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made. As such, without showing unexpected results, the claimed amount cannot be considered critical. Accordingly, one of ordinary skill in the art at the time the invention was made would have optimized, by routine experimentation, the amount of sodium bicarbonate in the composition to obtain the desired effect (In re Boesch, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980)), since it has been held that where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (In re Aller, 105 USPQ 223).

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Alternatively, Knight, teaches about the composition with the carriers and essential oils and other ingredients to combat insects wherein the amount of sodium bicarbonate is 60% (col 3, lines 65-67 and col 4, lines 1-2). The motivation is sodium bicarbonate is normally used as baking soda (food) and is well known as fungicidal agent and may deprive mites (acarids) from food by destroying fungi as evidenced by evidence prior art by Mills J.T. (p332, The full paragraph under “Interactions involving symbiosis between insects and fungi” describes the phenomena and in particular, col 2, in Para 2nd, line 5, says ‘fungivorous mites’). It is well known, as evidenced by Misato, that sodium bicarbonate is a fungicidal agent (abstract, col.2, lines 25-29, and examples).

With respect to difference (b), Bessette (II) teaches about 5% by weight of a plant essential oil mixture which included alpha terpineol, eugenol, cinnamic alcohol, benzyl acetate, 2-phenyl ethyl alcohol, benzyl alcohol etc. and, in combination, is effective in killing all exposed house dust mites within 45 minutes of exposure (col 7, lines 30-45).

Bessette (II) also teaches about USFDA approved plant essential oils, in lieu of conventional pesticides which are not safe for use in households or on mammals. Bessette II also explains, in detail, the mechanism of action of plant essential oils which act as antagonists against the ‘octopamine receptors’ that are distinct to invertebrates (col 3, lines 55-65). Therefore, one of ordinary skill in the art would not hesitate to use plant essential oils as acaricidal agent at the claimed concentration which is safe for human e.g. ‘vertebrates’, and, therefore, is approved by USFDA (based on experiments and evidences) and ‘non-neurotoxicity’ towards vertebrates is the desired intention as

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presently claimed invention in claim 1. The motivation is to use plant essential oils which act in a mechanism to combat acarids (invertebrates) and safe to human (Vertebrates) neurotoxicity (col 3, lines 55-65) as a safe and effective alternative pesticide for control of house dust mites in households and mammals (col 7, lines 47-50).

With respect to difference (c), Bessette (II) teaches about 5% by weight of a plant essential oil mixture which included alpha terpineol, eugenol, cinnamic alcohol, benzyl acetate, 2-phenyl ethyl alcohol, benzyl alcohol etc. and, in combination, is effective in killing all exposed house dust mites within 45 minutes of exposure (col 7, lines 30-45) to meet claim 25. It is obvious that it means 100% exposed mites will be killed. The motivation is plant essential oils may be used as a safe and effective alternative pesticide for control of house dust mites in households and mammals (col 7, lines 47-50). Bessette (II) also teaches about plant essential oils were used which are USFDA approved (col 3, lines 56-60).

Given that Bessette (I) in combination with NPL Acarid Killer or Knight disclose powder for combating acarids as presently claimed, it is clear that the powder would intrinsically have a combined acaricidal, fungicidal, and insecticidal effect on the cereal.

It would have been obvious to one of ordinary skill in the art at the time of invention to include the teaching of Bessette (II) and NPL "Acarid killer" or Knight into Bessette (I). One of ordinary skill in the art would have been motivated to use sodium bicarbonate as it is well known as fungicidal agent and would deprive mites (acarids) from food by destroying fungi and to use plant essential oils given that they act in a

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mechanism to combat acarids (invertebrates) and safe to human (Vertebrates) neurotoxicity (col 3, lines 55-65) as a safe and effective alternative pesticide for control of house dust mites in households and mammals (col 7, lines 47-50).

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bessette (I), (US 2002/0028256) in view of Bessette (II), USPN 6887,899, and NPL "Acarid killer" or Knight, USPN 5439690, as applied to claim 11 above, and in further view of Applying Pesticides Correctly (The Ohio State University, 1992).

7. Regarding claim 12, the combination of Bessette (I), (US 2002/0028256) in view of Bessette (II), USPN 6887,899, and NPL "Acarid killer" or Knight speak to the large scale application of sodium bicarbonate as spray powder form to foods including cereals.

The combination is silent as to the application of the sodium bicarbonate to silo walls.

Applying Pesticides Correctly teaches that a wettable powder formulation of a pesticide will leave more pesticide on the surface (p. 72 col. 2). They go on to state that spaces such as silos may be treated (p. 72 col. 2). Additionally, they speak to the covering of surfaces with pesticides (p. 73 col. 2).

Thus, Applying Pesticides Correctly teaches a method for applying pesticides to silo walls, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have sprayed the composition taught by Bessette (I), in view of

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Bessette (II), and NPL "Acarid killer" onto surfaces as taught in Applying Pesticides Correctly in order to coat the inside surface of a silo so that the pesticide may come into contact with cereals stored in the silo.

8. Claims 18, 19, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bessette (I), (US 2002/0028256) in view of Bessette (II), USPN 6887,899, and NPL "Acarid killer" or Knight, USPN 5439690, as applied to claim 11 above, and further in view of "NPL Inorganic compounds ---Silica gel", henceforth NPL "silica".

9. Regarding claims 18, 19, and 24, Bessette (I), (US 2002/0028256) in view of Bessette (II), USPN 6887,899, and NPL "Acarid killer" or Knight teach about silica (Bessette (I), [0029], e.g. 'silica) but not silica gel.

NPL "silica" teaches about use of silica, including silica gel, as carrier (p444, line 6th line from the bottom and last line of last but one paragraph) may be used in the composition as silica gel (10%W/W) in the termiticide composition (p 452, "Termicide" composition). The motivation is silica gel is added as a flow control aid in the formulation (last but third line on page 452).

It would have been obvious to one of ordinary skill in the art at the time of invention to include the teaching of NPL "silica" into Bessette (I), (US 2002/0028256) in view of Bessette (II), USPN 6887,899, and NPL "Acarid killer". One of ordinary skill in

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the art would have been motivated to use silica gel in the composition as a flow control aid in the formulation (last but third line on page 452).

Response to Argument

10. Applicant's arguments and amendments filed on 10/26/2010 have been entered.

11. While Bessette '535 cited by applicants does disclose using neurotransmitter effector, such reference has not been used against the present claims. Rather, the primary reference used is Bessette (I) US 20020028256 which does not make such disclosure. Bessette (I) discloses that the composition is chemically inert and can be used safely in the preparation of foods or for food packaging.

12. Applicants argue on page 5, last paragraph that Besette II teaches about plant essential oils are believed to antagonize a pest's nerve receptors (Col3, line 62) and therefore is neurotoxic. It is, however, to be noted that Besette II also teaches about USFDA approved plant essential oils, in lieu of conventional pesticides which are not safe for use in households or on mammals. Bessette II also explains, in detail, the mechanism of action of plant essential oils which act as antagonists against the 'octopamine receptors' that are distinct to invertebrates (col 3, lines 55-65). Therefore, one of ordinary skill in the art would use the plant essential oils as acaricidal agent at the claimed concentration which is safe for human e.g. 'vertebrates', and, therefore, is

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approved by USFDA (based on experiments and evidences) and 'non-neurotoxicity' towards vertebrates is the desired intention as presently claimed invention in claim 1.

13. Applicants argue on page 6, paragraph 2 that Bessett II describes "sodium bicarbonate content is 19.6 or 22%, outside the scope of the claims". However, NPL "Acarid Killer" is used as secondary prior art to meet claimed range of concentration. Applicants allegation on page 6, paragraph 3 related to 'pest's nerve receptors" and neurotoxicity has already been discussed above.

Further, note that while Bessett II does not disclose all the features of the present claimed invention, Bessett II is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely 5 % plant essential oil in the formulation, is effective in killing all exposed house dust mites within 45 minutes of exposure (col 7, lines 30-45). , and in combination with the primary reference, discloses the presently claimed invention.

14. With respect to applicants' arguments regarding Knight, it is noted that Knight et al. teach about sodium bicarbonate in the composition as insecticidal composition. It is obvious that sodium bicarbonate is a fungicidal agent, and further Mills is used to teach how 'symbiotic effect' exhibits the combined benefit of essential oil in combination with bicarbonate carrier, wherein the essential oil combats directly the acaricidal effect and

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bicarbonate acts as fungicide to destroy fungus and thus indirectly destroy "symbiotic effect" as taught in combination with Mills (Mills J.T. (p332, The full paragraph under "Interactions involving symbiosis between insects and fungi" describes the phenomena and in particular, col 2, in Para 2nd, line 5, says ' fungivorous mites').

Further, note that while NPL "Acarid killer" or Knight do not disclose all the features of the present claimed invention, NPL "Acarid killer" or Knight is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather these references teach certain concept, and in combination with the primary reference, disclose the presently claimed invention.

15. Applicants also argue that the use in Knight of 1-93% scenting agent and the use of essential oil in Bessette (I) and (II) would impair the gustative qualities of cereals for human and animal food uses. However, Knight has reported using 2% fragrance oil (col 4, lines 1-2) and Bessett can be used as low as 0.05 -15%, preferably 0.5-5% in the composition and carrier may be up to 99% in the composition ([0031]).

Further, it is noted that "the arguments of counsel cannot take the place of evidence in the record", *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the examiner's position that the arguments provided by the applicant regarding the references must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), "the reason for requiring evidence in a declaration or affidavit form is

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to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001”.

16. In the new grounds of rejection, Bessette (I), (US 2002/0028256) in view of Bessette (II), USPN 6887,899, and further in view of NPL “Acarid killer” or Knight have been used to meet the amended claimed elements in claim 11. Even if Bessette(I) does not disclose sodium bicarbonate as such, the reference describes in detail about inorganic solid as carrier. In this type of formulation to combat mites, sodium bicarbonate acts as a carrier and the amount meets claim 1 as disclosed by secondary prior art NPL “Acarid killer” of Knight. Bessette (I) discloses that carrier as inorganic solids (Bessette (I), [0030]) may be impregnated with essential oils as active ingredients to make the formulation to be used as spray powders ([0027]) to meet the claimed element “powder” form in claim 11 helps to make spray powders while Bessette (II), as a secondary prior art, teaches using active ingredient “plant essential oil” in amount of 5% kills all the exposed mites within 45 minutes (Col 7, lines 30-46)

Conclusion

17. Any inquiry concerning the communication or earlier communications from the examiner should be directed to Bhaskar Mukhopadhyay whose telephone number is (571)-270-1139.

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18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)-272- 1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B.M. /

Patent Examiner, Art Unit 1789

/Callie E. Shosho/

Supervisory Patent Examiner, Art Unit 1787